

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): A synthetic isolated polypeptide containing ~~one or several defined sequences~~ at least one defined sequence of PrP or sequences derived therefrom, said sequences at least one defined sequence being recognized by PrP^{Sc} - binding substances and comprising a sequence selected from the group consisting of:

SEQ ID NO: 1 Gly-R₁-Asp-R₂-Glu-Asp-Arg-(Tyr-Tyr)

SEQ ID NO: 2 (Gln)-(Val)-Tyr-Tyr-R₃-Pro-R₄-Asp-R₅-Tyr-R₆-(Asn-Gln)

SEQ ID NO: 3 Cys-R₇-Thr-Gln-Tyr-R₈-R₉-Glu-Ser-R₁₀-Ala-(R₁₁-Tyr)

SEQ ID NO. 4 (Tyr-Arg)-Glu-Asn-Met-R₁₂-Arg-Tyr-Pro-Asn-(Gln-Val-Tyr)

where R₁ = Asn or Ser, R₂ = Trp or Tyr, R₃ = Arg or Lys, R₄ = Met, Val or Ala, R₅ = Gln, Glu or Arg, R₆ = Ser or Asn, R₇ = Val, Thr or Ile, R₈ = Gln or Glu, R₉ = Lys, Arg or Gln, R₁₀ = Gln or Glu, R₁₁ = Tyr, Ser or Ala and R₁₂ = His, Tyr or Asn, and where the amino acids in parantheses are not mandatorily present.

Claim 2 (Canceled).

Claim 3 (Withdrawn).

Claim 4 (Currently Amended): Synthetic isolated polypeptide as claimed in claim 1, ~~characterized in that the sequence wherein said at least one defined sequence~~ is coupled with a "conformation" sequence, where applicable by means of a conventional spacer sequence, in such a manner as to simulate the spatial conformation in the PrP^{Sc} - protein said conformation sequence inducing the formation of a defined conformation of the synthetic polypeptide.

Claim 5 (Currently Amended): Synthetic isolated polypeptide as claimed in claim 4, ~~characterized in that~~ wherein the "conformation" sequence induces the formation of a β strand.

Claim 6 (Currently Amended): Synthetic isolated polypeptide as claimed in claim 21, ~~corresponding to one of the following formulas~~ wherein said at least one defined sequence comprises a defined sequence selected from the group consisting of:

SEQ ID NO: 10 (X)-(Gly)-Ala-Val-Val-Gly-Gly-Leu-Gly-Gly-Tyr-(R₁₃)-(Y)
SEQ ID NO: 11 (X)-Tyr-Tyr-R₃ -Pro-R₄-Asp-R₅ -Tyr-R₆ -(Asn-Gln)-(Y)
SEQ ID NO: 12 (X)-Tyr-Tyr-R₃ -Pro-R₄-Asp-R₅ -Tyr-R₆ -(Asn-Gln)-Z-(Gly)-Ala-Val-Val-Gly-Gly-Leu-Gly-Gly-Tyr-(R₁₃)-(Y)

where X and Y are arbitrary amino-acid sequences, Z is a conventional spacer such as Gly-Gly, R₃ = Arg or Lys, R₄ = Met, Val or Ala, R₅ = Gln, Glu or Arg, R₆ = Ser or Asn and R₁₃ = Met or Val, and where the sequence zones in parentheses need not necessarily be present.

Claim 7 (Currently Amended): Synthetic isolated polypeptide as claimed in claim 1, ~~characterized in that it~~ wherein the polypeptide is present in the retro form at least in one partial sequence.

Claim 8 (Currently Amended): Synthetic isolated polypeptide as claimed in claim 1, ~~characterized in that~~ wherein at least one of the amino acids ~~it~~ of the polypeptide contains is present in the D form.

Claim 9 (Currently Amended): ~~Synthetic~~ A derivative composition comprising the synthetic isolated polypeptide as claimed in claim 1, characterized in that it is present in derivative form bound to a carrier, immunogen marker or signal sequence.

Claim 10 (Currently Amended): A pharmaceutical preparation for the therapy of prion diseases, ~~characterized in that it contains at least one of the synthetic polypeptides stated in~~ comprising the synthetic isolated polypeptide of claim 1 or at

least one PrP^{Sc} - binding substance recognizing the synthetic isolated polypeptide defined sequences, and wherein the preparation contains it the synthetic isolated polypeptide or the at least one PrP^{Sc} - binding substance in a dose adequate for therapy or prevention.

Claim 11 (Currently Amended): Diagnostic means for prion diseases, ~~characterized in that it contains at least one of the synthetic polypeptides stated in comprising the synthetic isolated polypeptide of claim 1~~ or at least one PrP^{Sc} - binding substance recognizing the synthetic isolated polypeptide defined sequences in a dose sufficient for the particular detection.

Claim 12 (Currently Amended): Diagnostic means for prion diseases, ~~characterized in that it contains at least one of the synthetic polypeptides stated in comprising the synthetic isolated polypeptide of claim 1~~ or at least one PrP^{Sc} - binding substance recognizing the synthetic isolated polypeptide defined sequences in a dose sufficient for immunization.

Claim 13 (Withdrawn).

Claim 14 (Withdrawn).

Claim 15 (Currently Amended): A kit to detect PrP^{Sc} or antibodies recognizing it, ~~characterized in that it contains at least one synthetic polypeptide as claimed in wherein the kit comprises the synthetic isolated polypeptide of claim 1.~~

Claims 16-18 (Withdrawn).

Claim 19 (New): Synthetic isolated polypeptide of claim 1, wherein the at least one defined sequence comprises a plurality of defined sequences, wherein at least two of the defined sequences are coupled with a conformation sequence, where applicable by means of a conventional spacer sequence, in such a manner as to attain a PrP^{Sc} - specific epitope with at least two spatially neighboring binding sites.

Claim 20 (New): Synthetic isolated polypeptide selected from the group consisting of:

SEQ ID NO: 1 Gly-R₁-Asp-R₂-Glu-Asp-Arg-(Tyr-Tyr)

SEQ ID NO: 2 (Gln)-(Val)-Tyr-Tyr-R₃-Pro-R₄-Asp-R₅-Tyr-R₆-(Asn-Gln)

SEQ ID NO: 3 Cys-R₇-Thr-Gln-Tyr-R₈-R₉-Glu-Ser-R₁₀-Ala-(R₁₁-Tyr)

SEQ ID NO. 4 (Tyr-Arg)-Glu-Asn-Met-R₁₂-Arg-Tyr-Pro-Asn-(Gln-Val-Tyr)

where R₁ = Asn or Ser, R₂ = Trp or Tyr, R₃ = Arg or Lys, R₄ = Met, Val or Ala, R₅ = Gln, Glu or Arg, R₆ = Ser or Asn, R₇ = Val, Thr or Ile, R₈ = Gln or Glu, R₉ = Lys, Arg or Gln, R₁₀ = Gln or Glu, R₁₁ = Tyr, Ser or Ala and R₁₂ = His, Tyr or Asn, and where the amino acids in parantheses are not mandatorily present.